

NASA TECH BRIEF

Marshall Space Flight Center



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Lubrication Handbook

The technology of lubricants has passed well beyond the state of "a little grease on the axle and a drop of oil on the hinge". The requirements of today's wide range of sophisticated devices needing lubrication have generated literally thousands of lubricants specially tailored for specific applications. Rather than wade through a complex sea of specifications from numerous manufacturers, a user can now refer to a comprehensive "Lubrication Handbook".

Information on lubricants from government reports, military specifications, qualified parts lists, and suppliers of commercial lubricants has been consolidated in one source. All present in the same reference are data on the chemical and physical properties of solid, bonded solid, and liquid lubricants; dispersions and composites; and greases, oils, and hydraulic fluids. For convenience, the handbook is divided into two parts: Part I - Solid Lubricants, and Part II - Liquid Lubricants.

The general information in Part I outlines the pro's and con's of solid lubricants and includes a general description of the various types available. The appropriate solid lubricant can be found by consulting the lists of manufacturers and products; lubricant classification, liquid oxygen and fuel compatibility; specifications; and uses. Furthermore, chemical and physical properties, applications, and test data are included for many products. And for the interested reader, a glossary of terms and a description of solid lubricant test apparatus and procedures are included at the end of Part I.

In the second part, the information on liquid lubricants is divided into four parts:

- (1) An introduction including a cross index, a lubricant applications guide, and hints on how to use this portion of the handbook;
- (2) A list of specifications for oils, greases, hydraulic fluids, and compounds;
- (3) A section on chemical and physical properties and special uses of liquid lubricants; and
- (4) An appendix containing a glossary of terms and a description of test methods and apparatus.

As a reference source, as a buying guide, or as an introduction to the field of lubricants, this NASA Lubricant Handbook will be a welcome addition to the libraries of many manufacturers and users.

Note:

Requests for further information may be directed to:
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